



# Sun Fire™ 280R Server Product Notes

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Sun Microsystems, Inc.  
4150 Network Circle  
Santa Clara, CA 95054 U.S.A.  
650-960-1300

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# Sun Fire 280R Server Product Notes

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This document contains new information relevant to the Sun Fire™ 280R server. The following topics are described:

- “900-MHz, 1.015-GHz, and 1.2-GHz UltraSPARC III Cu CPU Modules” on page 2
- “Solaris Operating Environment Preinstallation Information” on page 4
- “Instructions for Installing a Server Into a Sun Rack 900” on page 7
- “Hardware Issues” on page 7
- “Software Issues” on page 9
- “Documentation Errata” on page 12

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## Accessing the Latest Documentation

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Check this site periodically for the latest revisions of Sun Fire 280R product documentation, including the latest version of these Product Notes.

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# 900-MHz, 1.015-GHz, and 1.2-GHz UltraSPARC III Cu CPU Modules

900-MHz, 1.015-GHz, and 1.2-GHz UltraSPARC® III Cu CPU modules (CPUs) are available for the Sun Fire 280R server. Systems shipped with the 900-MHz, 1.015-GHz, and 1.2-GHz UltraSPARC III Cu CPU modules meet the requirements described in this document.

If you are upgrading a Sun Fire 280R server with an UltraSPARC III Cu CPU module for the first time, you must make sure that the system meets the requirements described in the following sections.

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## System Hardware Requirements

This section provides the requirements that pertain to both CPU modules and the fan tray that cools these modules.

### CPU Modules

You can configure your system with one or two UltraSPARC III Cu CPU modules of the same speed.

The part number of the 900-MHz UltraSPARC III Cu CPU module is 501-6002.

The part number of the 1.015-GHz UltraSPARC III Cu CPU module is 501-6395.

The part number of the 1.2-GHz UltraSPARC III Cu CPU module is 501-6485.

### Fan Tray Assembly

You must install the fan tray assembly X9820A (540-5088) to cool the UltraSPARC III Cu CPU module. Systems shipped with the UltraSPARC III Cu CPU module installed already have this fan tray assembly.

If you do not have this fan tray, contact a Sun sales representative or service provider to order one.

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**Note** – The previous version of the fan tray assembly (540-4434) does not achieve sufficient cooling capacity and does not support UltraSPARC III Cu CPU modules.

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## System Software and Firmware Requirements

### System Software

Sun Fire 280R systems using the UltraSPARC III Cu CPU module (CPU) at 1.2 GHz require one of the following versions of the operating environment:

- Solaris™ 8 12/02 operating environment or a compatible Solaris release that supports the server
- Solaris™ 9 12/02 operating environment or a compatible Solaris release that supports the server

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**Note** – Sun Fire 280R systems with the 1.2-GHz CPU module have a dual-boot image, which provides you with a choice of Solaris 8 or Solaris 9 operating environment.

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Sun Fire 280R systems using the CPU module at 1.015 GHz require the Solaris 8 02/02 operating environment or a compatible Solaris release that supports the server.

Sun Fire 280R systems using the CPU module at 900 MHz require the Solaris 8 10/01 operating environment or a compatible Solaris release that supports the server.

Sun Fire 280R systems using the CPU module at 750 MHz require the Solaris 8 01/01 operating environment or a compatible Solaris release that supports the server.

To verify that the proper version of the operating environment is installed on your Sun Fire 280R server, examine the file `/etc/release`. This file should contain the text “Solaris 8 1/01”, “Solaris 8 10/01”, “Solaris 8 2/02”, “Solaris 8 12/02”, or “Solaris 9 12/02” or identify a subsequent compatible Solaris release.

## System Firmware

The following are the minimum system PROM firmware requirements for Sun Fire 280R systems:

- Sun Fire 280R systems using the 1.2-GHz CPU module require version 4.5.21 or later of the OpenBoot<sup>TM</sup> PROM.
- Sun Fire 280R systems using the 900-MHz CPU module or the 1.015-GHz CPU module require version 4.5.16 or later of the OpenBoot PROM.

If you are operating a Sun Fire 280R server shipped with any of these modules installed, then your firmware is already at the required level. If you are upgrading a system to include any of these modules, install patch 111292-12 or later, which will update your firmware to the correct version. This patch is available on the SunSolve<sup>SM</sup> web site.

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**Note** – OpenBoot PROM 4.6.6 is not supported on the Sun Fire 280R server. If you installed OpenBoot PROM 4.6.6, you must change your firmware to a supported version of OpenBoot PROM firmware.

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## Solaris Operating Environment Preinstallation Information

The Sun Fire 280R system shipped with these Product Notes has one of the following Solaris operating environments already installed on its hard drive:

- Sun Fire 280R systems with the 1.2-GHz CPU module have a dual-boot image (Solaris 8 HW 12/02 operating environment and Solaris 9 12/02 operating environment).
- Sun Fire 280R systems with the 900-MHz CPU module or the 1.015-GHz CPU have the Solaris 8 02/02 operating environment.

The Sun<sup>TM</sup> Remote System Control 2.2 (RSC) packages are also included in these images.



If you do not want to use the preinstalled operating environment, you can bypass the image on the hard drive by using one of the following methods to install another compatible version of the Solaris operating environment.

Before powering on the system for the first time, you can:

1. Place a compatible Solaris operating environment CD into the CD-ROM drive of the system.
2. Install the Solaris operating environment over your network using a JumpStart™ image you created.

For more information about installing Solaris software, refer to the Solaris installation instructions in the Solaris Media Kit documentation.

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## Setting Up the Operating Environment

### **1. Power on the system.**

First the system checks for a local boot CD. If no CD is found, the system searches for a JumpStart installation server on your network. If a CD or JumpStart server is found, the system displays a message that you have 60 seconds to halt the operating environment installation from the CD or the JumpStart server.

If neither the CD nor JumpStart server is present, one of the following actions occurs depending on which CPU module is installed in your system:

If your system has the 900-MHz CPU module or the 1.015-GHz CPU, the system loads the preinstalled image.

If your system has the 1.2-GHz CPU module, you must select either Solaris 8 HW 12/02 operating environment or Solaris 9 12/02 operating environment. The system loads the operating environment you selected. The unselected environment is removed.

- 2. Verify the version of software installed. Alternatively, you can install a newer version of the Solaris operating environment software (if a newer version exists).**
- 3. Answer the Solaris operating environment setup prompts by following the on-screen instructions.**
- 4. Answer the RSC configuration prompt.**

If you answer yes to this prompt, you will be prompted to provide RSC configuration information. When you have finished answering these prompts, RSC will be configured and the correct RSC firmware will be installed onto the RSC card.

If you answer no to this prompt, the set up of the operating environment will continue without configuring RSC. If you want to install RSC later, you can install RSC by running the `rsc-config` script located at `/usr/platform/SUNW,Sun-Fire-280R/rsc`.

**5. When you reach the console or setup window titled End, click the Confirm button.**

The system displays the login window, in which you can enter your user name and password to log in and begin using the system.

## Solaris Operating Environment Patches

If you reinstall the Solaris operating environment, you may need to obtain required patches from SunSolve. To verify the basic installation and configuration of your system, Sun has created the Sun<sup>SM</sup> Install Check Tool. This one-time-use tool is currently being offered at no charge over the web. After you complete the basic installation and configuration of your system, you can use the tool to check the following aspects of your Sun hardware:

- Patches for the Solaris operating environment
- System firmware levels
- Unsupported hardware configurations

The tool identifies potential problems in these areas and provides recommendations that you can use to resolve the problems.

You must accept the terms of the license agreement at the Sun Install Check Tool web site in order to run the tool. Follow the directions at the web site to download and use the Sun Install Check Tool.

The Sun Install Check Tool is available at:

<http://sunsolve.sun.com/pub-cgi/show.pl?target=installcheck/installcheck>

You can also use the Solaris Patch Manager for on-going patch management. New in Solaris 9, the Patch Manager provides automatic patch inventory and configuration-based analysis of systems, automatic verification of digital patch signatures, and automatic resolution of patch dependencies and install order.

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# Instructions for Installing a Server Into a Sun Rack 900

The 280R server rackmounting kit now includes M6 screws for use with the Sun Rack 900 or any cabinet with mounting holes sized for metric dimensions. Table 1 describes the additional screws.

TABLE 1 M6 Screws in Rackmounting Kit

Screws	Qty	Use
M6 x 20 panhead screws with washers P/N: 240-4374-01	8	Attach the slide assemblies to the front and back mounting rails.
M6 x 20 cheese head screws P/N: 240-4459-01	4	Use in trim panels instead of the 10-32 screws to secure the top and bottom of the server to the front mounting rails.

To install a server into Sun Rack 900, follow the instructions in the *Sun Fire 280R Server Setup and Rackmounting Guide*. Where the instructions specify 10-32 screws, use the M6 screws included in the rackmounting kit box. Use a Phillips No. 3 screwdriver with the M6 screws.

**Before you install the server into the cabinet**, replace the 10-32 captive screws on the front trim panel with M6 x 20 cheese head screws.

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## Hardware Issues

### Clarification of System Depth Dimension

(BugID 4756551)

The *Site Planning Guide for Entry-Level Servers* (part number 816-1613) lists the depth of the Sun Fire 280R system as 69.21 cm (27.25 in). This is the correct depth excluding the front bezel measurement. The depth of the system including the front bezel measurement is 73.8 cm (29.12 in).

# Peripheral Component Interconnect (PCI) Card Options

Do *not* install the following optional PCI cards into PCI slot 1 (66 MHz); install these cards *only* in PCI card slots 2, 3, or 4 (33 MHz):

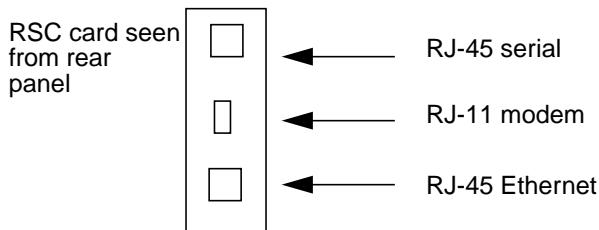
- SunATM/P 155 MMF adapter
- SunATM/P 155 UTP5 adapter
- SunATM/P 622 MMF adapter

Please refer to the *Sun Fire 280R Server Service Manual* for PCI card installation instructions.

## Serial Adapter Included in Ship Kit

For your convenience, a serial port adapter (part number 530-2889) is included in your Sun Fire 280R server ship kit. This adapter enables you to use a standard RJ-45 serial cable to connect directly from the RJ-45 serial connector on the Sun Remote System Control (RSC) card to the serial connector of a Sun workstation with a DB-25 serial connector. With this interface, you can also run serial lines from multiple servers with RSC cards and connect them all to a terminal “concentrator.”

Note that the RSC card has a second RJ-45 connector designed for use with an Ethernet cable (part number 530-1871) that is also included in your ship kit. Viewing the RSC card from the rear of the system, the Ethernet connector is on the bottom, the RJ-11 modem connector is in the middle, and the RJ-45 serial connector is on top.



## Refer to Instructions in the Chassis for Removing and Installing CPU Modules

An illustrated instruction booklet (*CPU Installation and Removal Instructions*) is attached to the air flow guide that covers the CPU module(s) inside the system chassis. Should it be necessary to remove or install a CPU module, you should follow the instructions in that booklet.

The required tool (a torque indicator driver) for removing or installing a CPU module is also housed in the chassis between the disk drives and the DVD-ROM drive bay. The booklet shows you how to use that tool to perform the service procedure.

Your *Sun Fire 280R Server Service Manual* states that a torque screwdriver is housed in the chassis between the disk drive bay and the DVD-ROM drive bay. However, the torque screwdriver is not included with this system. Therefore, instead of following the instructions in the Service Manual, you should follow the instructions in the booklet, using the torque indicator driver supplied in the chassis.

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## Software Issues

### Disk Drive Hot-Plugging

Following any disk drive hot-plug procedure, restart the environmental monitoring process using the following procedure.

To restart the environmental monitoring `picld` process, as root execute the following commands:

1. **Become root on the system. Type the following:**

```
% su  
Password: password
```

**2. Type this command to stop the `picld` process:**

```
# /etc/init.d/picld stop
```

If there is a Segmentation Fault message, perform Step 2a. If there is no message, skip to Step 3.

**a. Type this command to kill the `picld` process:**

```
# pkill -KILL picld
```

**3. Type this command to start a new `picld` process:**

```
# /etc/init.d/picld start
```

The `picld` process will start correctly.

## False Drive Fault Reported at Power-On

When you power on the system, it may report a false internal drive fault that is recorded in the Sun Remote System Control (RSC) log history.

If the error is reported by RSC, you should disregard it if the system boots successfully to the Solaris operating environment. In most cases the erroneous fault will not reappear. You can verify the disk after the boot process by using the `fsck` utility.

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**Note** – Any disk drive error message reported by the Solaris operating Environment is a real disk drive error.

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If a disk fault is reported at the `ok` prompt and the system fails to boot to the Solaris operating environment, there may be a problem with the disk drive. Test the disk drive with the OpenBoot Diagnostics test documented in the “Diagnostics, Monitoring, and Troubleshooting” chapter in the *Sun Fire 280R Server Service Manual*.

## RSC Command `rscadm resetrsc` Fails

After a cold restart or after powering on the system, the RSC command `rscadm resetrsc` fails; this is a known condition. You need to reset the host system for the command to function correctly.

There are three ways you can reset the host. Use one of the following commands:

- At the `ok` prompt, execute the `reset-all` command.
- At the RSC Command-Line Interpreter (CLI) prompt, issue the `reset` command.
- At the Solaris CLI prompt, issue the `reboot` command.

The RSC `rscadm resetrsc` command will now function correctly.

## Graphics Monitor User and RSC Console User Both Have Access to the Solaris Operating Environment

When the RSC software is in RSC console mode and a graphics monitor and a Universal Serial Bus keyboard are attached to the server, both the RSC console user and the graphics monitor user can log in to the Solaris operating environment simultaneously.

## RSC `bootmode -u diag` Command Fails to Send Boot Output to the RSC Console

The OpenBoot PROM interface does not redirect all console messages to the RSC console after RSC issues a `bootmode -u diag` command. Use the *Sun Remote System Control 2.0 User's Guide* for instructions to redirect the console to RSC.

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# Documentation Errata

## Correction to the PCI Slot 4 Specification

(BugID 4450900)

The table in the “About Peripheral Component Interconnect (PCI) Buses” section of the *Sun Fire 280R Server Owner’s Guide* incorrectly states that PCI slot 4 is 32 bits wide and that it can accommodate only 32-bit-wide PCI cards. The correct information is that PCI slot 4 is 64 bits wide and can accommodate both 32-bit and 64-bit PCI cards.